

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

- 1-28. (Canceled)
29. (Currently amended) A process for the preparation of particles comprising at least one metal ion which comprises the following stages:
- a) at least one precursor comprising a metal cation is dissolved or dispersed in an aqueous medium;
 - b) a partial hydrolysis of said precursor is optionally carried out,
 - c) the precursor resulting from stage a) or the partially hydrolyzed precursor resulting from stage b) is brought into contact with at least one water-soluble comb copolymer comprising either a complexing anionic backbone and stabilizing hydrophilic side chains or a stabilizing hydrophilic neutral backbone and complexing anionic side chains or at least one of the two abovementioned copolymers in combination with at least one complexing anionic hydrophilic polymer; and
 - d) a partial or complete hydrolysis of the product obtained during stage c) is carried out, then
 - e) optionally, a stage of maturing is further carried out at a temperature of between 10°C and a temperature of less than or equal to the boiling point of said dispersion,
 - f) optionally, after stage d) or after stage e), a stage of concentration of the dispersion is carried out, and
 - g) the particles having a mean size of between 2 and 500 nm are recovered.

30. (Previously presented) A process according to Claim 29, wherein the metal cation is selected from the group consisting of metals from Columns IIIA, IVA, VIII, IB, IIB, IIIB and VB of the Periodic Table, the lanthanides and the actinides.
31. (Previously presented) process according to Claim 30, wherein the metal cation is selected from the group consisting of titanium, iron, cobalt, nickel, copper, aluminum, zinc, gold, silver, platinum, cerium, lanthanum, yttrium, iridium, ruthenium, rhodium, osmium, and palladium.
32. (Previously presented) A process according to claim 29, wherein the precursor is in the form of an aqueous solution of a water-soluble salt of a metal cation selected from the group consisting of nitrates, sulfates, chlorides, and phosphates.
33. (Previously presented) A process according to one of claim 32, wherein the precursor is in the form of an aqueous dispersion of particles or of aggregates of particles comprising a hydroxide, a hydroxide oxide or a partially hydrolyzed water-soluble salt of a metal cation, optionally combined with an oxide of a metal cation.
34. (Previously presented) A process according to the claim 33, wherein the particles or the aggregates have a mean size of less than or equal to 100 nm.
35. (Previously presented) A process according to the claim 34, wherein the particles or the aggregates have a mean size of between 2 and 100 nm.
36. (Previously presented) A process according to claim 29, wherein the hydrolyses of stage b) and that of stage d) are carried out in the presence of a base which is an alkali metal hydroxide, an alkaline earth metal hydroxide, or aqueous ammonia.

37. (Previously presented) A process according to Claim 36, wherein the base is chosen from sodium hydroxide, potassium hydroxide, calcium hydroxide or aqueous ammonia, alone or as mixtures.
38. (Previously presented) A process according to claim 29, wherein the base employed during optional stage b), and during stage d) corresponds to 50 to 130% of a stoichiometric amount needed to completely hydrolyze the precursor.
39. (Previously presented) A process according to claim 38, wherein, if n_1 is non zero and represents the number of moles of base employed during stage b), n_2 represents the number of moles of base employed during stage d) and n represents the sum of n_1 and n_2 , then n_1 and n_2 conform to the following inequalities $0 < n_1 \leq 0.8n$ and $0.2n \leq n_2 < n$.
40. (Previously presented) A process according to claim 29, wherein the water-soluble comb copolymer, optionally combined with the water-soluble polymer, is chosen so that the comb copolymer, optionally combined with the hydrophilic polymer, forms a transparent solution at 10% by weight in water at a temperature which is the lowest temperature to which said comb copolymer, optionally combined with the hydrophilic polymer, is subjected in the process.
41. (Previously presented) A process according to claim 40, wherein the water-soluble comb copolymer has a weight-average molecular mass (M_w) of between 2 000 and 5×10^5 g/mol.
42. (Previously presented) A process according to claim 40, wherein the water-soluble comb copolymer comprises a complexing anionic hydrophilic backbone and

nonionic stabilizing hydrophilic side chains, said backbone being obtained from monomers chosen from unsaturated monocarboxylic acids, unsaturated polycarboxylic acids or their anhydride form, or unsaturated sulfonic acids, optionally in combination with one or more water-insoluble monomers.

43. (Previously presented) A process according to Claim 42, wherein the monomers forming the nonionic side chains are macromonomer entities selected from the group consisting of macromonomers of poly(ethylene glycol) (meth)acrylate, poly(vinyl alcohol) (meth)acrylate, poly(hydroxy(C₁-C₄)alkyl (meth)acrylate) (meth)acrylate, poly(N-methylolacrylamide) (meth)acrylate and poly((meth)acrylamide) (meth)acrylate).

44. (Previously presented) A process according to claim 43, wherein the nonionic side chains exhibit a poly(ethylene glycol) number-average molar mass of between 200 and 10 000 g/mol.

45. (Previously presented) A process according to claim 29, wherein the copolymer comprises a stabilizing hydrophilic neutral backbone and complexing anionic hydrophilic side chains, said neutral backbone being obtained from ethylene oxide in the form of an oligomer or of a polymer.

46. (Previously presented) A process according to claim 45, wherein the side chains are obtained from monomers selected from the group consisting of unsaturated carboxylic acids, polycarboxylic acids, anhydride form of polycarboxylic acids, unsaturated amino acids and unsaturated sulfonic acids.

47. (Currently amended) A process according to claim 29 45, wherein the monomers forming the complexing anionic backbone or the complexing anionic side

chains are combined with, or partially substituted by, esters of unsaturated carboxylic acids, optionally carrying a sulfonated group or a hydroxyl group; esters of unsaturated carboxylic acid; linear or branched hydrocarbonaceous monomers comprising at least one carbon-carbon double bond which comprise 2 to 10 carbon atoms in the longest chain; vinylaromatic monomers; α,β -ethylenically unsaturated nitriles; α,β -ethylenically unsaturated amides; vinyl ether; or N-vinylpyrrolidone.

48. (Previously presented) A process according to one of claim 47, wherein the copolymer is combined with at least one polymer obtained by polymerization of at least one anionic monomer which are unsaturated carboxylic acids, polycarboxylic acids or their anhydride form, or unsaturated sulfonic acids.

49. (Previously presented) A process according to claim 48, wherein the polymer has a weight-average molar mass of between 2 000 and 5×10^5 g/mol.

50. (Previously presented) A process according to any one of the preceding claims, wherein the level of copolymer employed during stage c), which is the molar ratio of the complexing group of the copolymer of the anionic hydrophilic part or parts to the number of mole of the metal cation present in the precursor, is between 0.05 and 2.

51. (Previously presented) A process according to claim 29, wherein of at least 80% of the particles obtained at the end of stage d) have a mean size between 2 and 500 nm.

52. (Previously presented) A process according to claim 29, wherein, after stage d), a stage e) of maturing is further carried out at a temperature of between 10°C and a temperature of less than or equal to the boiling point of said dispersion.

53. (Previously presented) A process according to claim 52, wherein, after stage d) or after stage e), a stage f) a concentration of the dispersion is carried out.

54. (Previously presented) A process according to claim 53, wherein the concentration is carried out by partially or completely separating the particles from the medium of the dispersion and then optionally by redispersing the particles thus obtained in an appropriate amount of aqueous medium.

55. (Previously presented) A process according to claim 54, wherein the separation stage is carried out is by ultrafiltration, dialysis, precipitation, centrifugation , ultracentrifugation, complete or partial evaporation, with or without heating, of the aqueous medium of the dispersion.

56. (Canceled)

57. (New) A process according to claim 29, wherein the mean size of the recovered particles is of between 2 and 300 nm.

58. (New) A process according to claim 57, wherein the mean size of the recovered particles is of between 2 and 90 nm.